

# VendingMiser®

## VM150 / VM151 Installation Instructions

VendingMiser® is designed to operate as an intelligent power controller for cold product vending machines. Note that VendingMiser may not be used on any vending machine which contains perishable products.

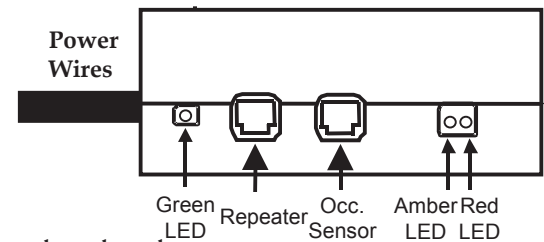
### General Theory of Operation

Using a Passive Infrared (PIR) occupancy sensor, VendingMiser will automatically shut down the controlled vending machine when the area around it has been vacant for 15 minutes. However, VendingMiser will periodically re-power the machine automatically to ensure that the vended product stays cold. In addition, VendingMiser contains a current sensor which determines if the vending machine's compressor is operating, and will delay power-down of the vending machine until the compressor has completed its cooling cycle.

To install the VendingMiser, follow these simple steps:

### Locating and Mounting the VendingMiser

1. Unplug the vending machine's power cord from the outlet. If it is necessary to move the machine, be careful as it can be heavy. Note- Each vending machine should remain on the same outlet/circuit breaker at the end of installation.
2. Identify a suitable mounting location for VendingMiser, most likely on the wall behind the vending machine. VendingMiser must be located so that the machine's power cord can reach VendingMiser, and VendingMiser's power cord can reach the power outlet.
3. VendingMiser should be oriented so that the operational lights are viewable by maintenance personnel.
4. Using screws appropriate for the wall material, attach VendingMiser's steel mounting bracket to the identified location with the UP arrow facing towards the ceiling. "Snap" the VendingMiser DOWNWARDS onto the mounting bracket. (To remove VendingMiser later, "Snap" the unit UPWARDS.)
5. Plug the vending machine's power cord into the VendingMiser. Do not yet plug the VendingMiser into the wall outlet at this stage of the installation.



### Occupancy Sensor or Sensor Repeater Installation

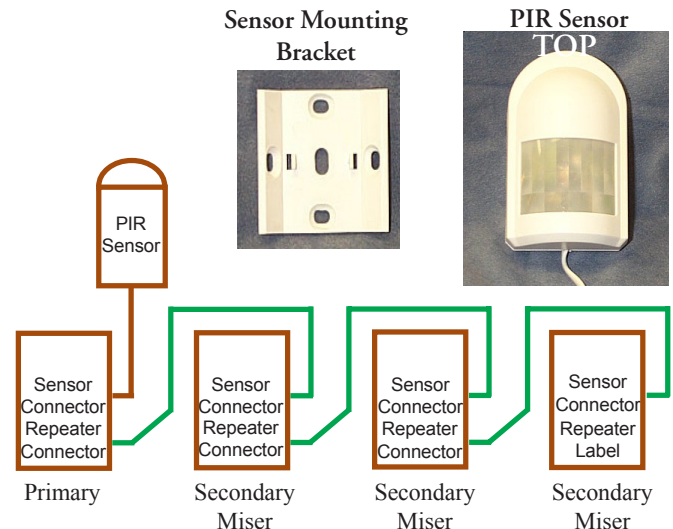
6. If the controlled vending machine is a single unit, or the first in a bank of machines, a PIR sensor must be installed as described below to create a Primary VendingMiser. If this VendingMiser is not the first bank unit, skip to Step 10 to install a Secondary VendingMiser.
7. The PIR sensor must be located so it can "See" anyone approaching the vending machine. Ideally, the sensor should be mounted on the wall behind the vending machine, about two feet above the machine. Note the picture on reverse side of this document - ensure that the TOP of the sensor is facing the ceiling. If low ceiling height above the vending machine does not allow wall mounting, mount on the ceiling in front of the vending machine. This requires that the "TOP" of the sensor points towards the vending machine to ensure proper operation. Always avoid sensor placement near air ducts which can falsely trigger the sensor.



# VendingMiser®

## VM150 / VM151 Installation Instructions (cont'd.)

- To mount the sensor, use the supplied plastic mounting bracket shown below. Use appropriate fasteners to secure it to the selected surface. Then snap the sensor over the bracket. To remove the sensor at a later date, snap the sensor off the bracket by pulling the sensor straight out.
- The occupancy sensor cable has a telephone style connector at its end. Plug this connector into the center socket on the VendingMiser. The sensor cable should be secured to the wall or ceiling by covering it with plastic low voltage wire raceway.
- If a Secondary VendingMiser is being installed, use the supplied 3 Meter (10 feet) phone style cable to connect the OCCUPANCY SENSOR connector on this VendingMiser to the REPEATER connector on the Primary VendingMiser. Only remove the yellow label covering the REPEATER connector on the previous unit in the chain. Additional Secondary VendingMisers can be daisy-chained using the same techniques shown in the diagram to the right. A maximum of four Misers can be daisy-chained in this fashion. It is acceptable to mix VendingMisers with SnackMisers, PlugMisers, and/or CoolerMisers provided the sensor coverage is acceptable for all devices sharing the sensor.



## Power-Up Testing and Install Validation

Plug the VendingMiser into the wall outlet. The following should occur:

- The vending machine should power up immediately.
- The Green LED should flash twice to indicate that the temperature sensor is functional.
- The Amber LED should then come on as the VendingMiser attempts to synchronize with the compressor's operation. This typically will require that the compressor cycle on and off.
- The Red LED should come on, indicating occupancy detection.

The PIR sensor must be allowed to stabilize for several minutes before its placement can be verified. Once the sensor is warmed up, it will flash at the slightest movement within its field of view. Validate that the sensor can "See" an occupant at, or approaching, the vending machine. If necessary, relocate the sensor and repeat the coverage test. The Red LED on the VendingMiser will mirror the state of the PIR sensor, with an additional 3 second delay. This verifies that VendingMiser is communicating with the PIR sensor.

As a final functional test, the VendingMiser will power-down the first time only after installation approximately two minutes after the area around the machine is vacant and the compressor is determined to be not running. Covering the PIR sensor or temporarily setting it to face the wall will allow validation of the power-down operation if so desired. Following this initial power-down, the VendingMiser will operate with standard time-outs.

**NOTE:** The VendingMiser will flash all three LEDs simultaneously and light a RED LED in the PIR sensor if the vending machine has failed and will not shut down its compressor after several hours of use. Since this prohibits the VendingMiser from shutting down the machine, please call the machine owner service line for machine service.